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## THE IMPORTANT ELEMENTS IN NAVAL CONFLICTS

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The basic principles of strategy have been the same since armies first clashed in the field and fleets first manœuvred on the sea. The application of those principles has changed with the development of the mechanism of war; but, in essence, successful strategy is still, as in the beginning, founded upon the acme of common sense, of careful observation, of ripe judgment, and of quickness of action in the use of various appliances of war. The student of this science may learn much from its practice in the past, and in our war colleges he ought to acquire special information that will be of inestimable service in the solution of the ordinary problems of attack and defense which may confront this nation in the future. History, however, does not lack instances to show that the genius of a commander is often of greater weight in achieving results than the abstract knowledge of the science of war. The victories of Joan of Arc, of Lord Clive, and of Washington may be cited as to this. When the latter assumed command of our troops in the infancy of the republic, his war experience was limited to a comparatively brief Indian service. The application of the principles of strategy underwent a change with the commercial development of the steam engine, for almost coincidently with the invention of the locomotive and the screw propeller, there came increased facilities for rapidly transporting men and material. As expressed by one of the greatest of the world's strategists, Von Moltke, the marked advance in the conduct of modern war over mediæval methods lies in the ability of the commander of our day to move large bodies of troops and supplies in a more expeditious and efficient manner.

### *The Marching of Mediæval and Modern Armies.*

Probably no more impressive way of illustrating the difference in moving mediæval and modern armies could be shown, than by

comparing the marches of the Tartars who invaded Eastern Europe at intervals with the present campaign of the Japanese in Manchuria.

The great hordes which started from the border lands of Mongolia and Manchuria were a long time in assembling, but were always self-supporting, ever increasing in numbers, and continually looking ahead for future sources of supplies. Oyama's army, on the other hand, was more rapidly assembled, owing to existing methods of transportation; but ever since his forces landed, and although immense quantities of stores have been captured, we find the resources of Japan taxed to keep his soldiers on the march. The opposing armies have been compelled to keep in close touch with railroad communication, otherwise, inevitable starvation might have awaited the force that attempted to operate independently of a railroad base.

#### *The Cost of Modern Armies and Navies.*

Probably one of the most striking ways of showing the cost of maintaining modern military establishments is to analyze our expenditure for the support of the army as compared with the outlay for other purposes. The average cost throughout the country of educating each pupil in the public schools will approximate about fifty dollars, while the direct and indirect expense annually resulting from the enlistment of a soldier will exceed one thousand dollars. The cost of equipping, housing and transporting the modern soldier, combined with various subsidiary expenses, causes his pay to be but a fraction of the outlay required for his support. The annual expenditure, including the cost of fortification, incurred by the War Department during the past eight years, has averaged over one hundred and twenty-five million dollars. When the fortifications now planned are finished, the additional expense of manning them will bring the annual war expenditure to an amount exceeding one hundred million dollars. The forts that are building will have to be manned, for there are but few appliances which, if neglected, will become impaired more quickly than a modern weapon of war.

If anything, the navy is a more expensive institution than the army. Dividing the total naval expenditure by the number of men in the organization, we find that it is now costing the government about two thousand dollars annually per sailor employed. The navy

is insatiable in its call for supplies, and the demand for repairs and new construction never ceases. The cost of maintaining naval establishments has increased to such an extent that, at the present time, all but six nations have ceased struggling for even a place in the race for supremacy. Our annual expenditure for the past eight years has averaged seventy-three million dollars, and our Naval Board of Construction has officially reported, that, from henceforth, the cost of maintenance alone will be about seventy-six million dollars. Including all warships authorized, the cost of our fighting fleet will approximate three hundred and twenty million dollars. It will require an expenditure of sixteen million dollars to overcome depreciation, and that this estimate of 5 per cent for depreciation is an exceedingly conservative one, is shown by the fact that the British admiralty now regard over one hundred warships of various kinds, some of them only a dozen years old, and completed at a cost of over one hundred and twenty five million dollars, as practically unserviceable, from a military standpoint, for modern naval requirements. It will thus be seen that when the warships now authorized are in commission, an annual naval expenditure of one hundred million dollars will be required to overcome unavoidable depreciation, and to secure a net increase of strength equivalent to the fighting value of a single battleship.

*War is Now a Business, Whose Success Depends, in Great Part, Upon the Efficiency and Development of Mechanical Forces.*

Naval war is now a business as much as a science. Bullion and brain count as well as bullets and brawn. The spade serves with the sword. The soldier as well as the sailor is most efficient when he possesses a better knowledge of mechanical appliances than of perfunctory drills. The extraordinary cost of carrying on modern military operations at present points to the fact that business methods should be fully recognized in the organization and conduct of the military-naval departments.

One of the basic elements in naval policy should be a recognition of the fact that there are but three nations either wealthy enough or possessing sufficient naval strength to retain colonial possessions that are thousands of miles distant from the home land, unless the colonists or inhabitants themselves are able and willing to help the mother country in time of war.

Until the past few years Great Britain attempted to maintain on every naval station a stronger fleet than could be maintained by any possible rival in the same waters. In pursuance of this policy, her naval expenditures progressively increased until they reached, last year, the sum of one hundred and eighty-five million dollars. That empire has now called a halt in naval expenditures, for the admiralty estimates for the coming year show a reduction of about fifteen million dollars compared with the previous year.

*The Modern Warship Cannot Operate Far From a Great Repair Base.*

The battleship which can draw upon the resources of a completely equipped manufacturing and military base, is at an enormous advantage as compared with a similar vessel that attempts to be, in great part, self-supporting. When the United States declared war against Spain, the naval strength of the two powers was about the same, so far as graphic charts and official statistics could show. When the fleets met at Santiago, less than three months afterwards, the squadron of Spain had become so weakened, owing to its vessels being unable to secure a sufficiency of coal, ammunition and supplies, that some foreign experts assert that the relative strength of the two fleets was about six to one in our favor.

The showing that can be made by data as to ships and guns, as a measure of relative strength, is more apparent than real. It is not necessary to doubt that the vessels of all nations are of the tonnage that they are claimed to be, nor need it be denied that practically all vessels lately constructed possess the highest class of armor and armament. All ships, however, are not maintained in equally good condition. The stress of war will soon impair the condition of these vessels unless there is an ample reserve of men, money and supplies of various kinds to maintain them in a state of efficiency. The average modern battleship has only to take part in a few months manœuvres to necessitate her seeking a naval base for overhauling.

In brief, the individual battleship is the most powerful weapon for home defense, but unless maintained continually at high efficiency, is unreliable for distant military operations. The Russians have found this out, to their sorrow, for while Port Arthur was a

great military fortress, it possessed an insignificant, as well as inefficient, equipment of machine tools, for making necessary and rapid repairs to the machinery, hull and armament of vessels in service.

*The Tendency of the Nation to Inquire More Rigidly as to Naval Administration.*

For over a generation, the navy has had an exceedingly strong hold upon the affection and love of our people, but a cursory reading of the debate in the Congress upon the naval appropriation bill for the year 1905-06 ought to show that the pendulum of sentiment is now commencing to move in the other direction. The trend of this sentiment is probably best reflected in the remarks of one of the ablest men in public life—a man, who by birth and environment ought to be a friend of the navy. Yet, this student of naval affairs, in a very thoughtful analysis of the effect of naval increase used as a text for calling a halt in excessive naval expenditures the following quotation: “For which of you intending to build a tower sitteth not down first and counteth the cost whether he have sufficient to finish it?” The navy should heed this warning, that hereafter the estimates for naval increase will be critically analyzed. It can also take unto itself the responsibility for this change of heart upon the part of a large body of thinking men as to whether the nation’s best interest is promoted by rapidly forging ahead in relative naval strength. There should, likewise, be an end to the effort to attach any mystery to the purpose of a modern fleet, and there should be fewer hysterical statements as to the weakness of our naval organization as compared with the strength of other individual powers.

*The Vacillating Opinions of Naval Experts.*

In the bitter strife and feverish haste of rival powers to lead in relative naval strength, the technical experts of all nations have too often adopted untried appliances, and as a result many innovations have had to be discarded after comparatively short trial. Even less than three years ago, there was an urgent call from many leading naval experts for the building of second-class or small-sized battleships, despite the fact that the trend of construction was towards fighting ships of greatly increased displacement. The tor-

pedo boat had been barely built before there was a call for the larger destroyer, followed by the demand for the torpedo gunboat; and although the several naval powers to-day possess one or two thousand torpedo boats and destroyers, the British experts find that some new type of coastal craft is necessary. As for the character and arrangement of the main and secondary batteries of the battleship, a new design comes forth with each succeeding year. Experts have now discovered the fact that the modern battleship is fitted with torpedoes that are too small in size, and which should be loaded through the side rather than through the end of the launching tube. Concerning the design and endurance of the different types of submarine boats, all knowledge of this special matter seems to have been monopolized by a favored few. It was maintained that we had revolutionized the design of the battleship in mounting the main battery in superposed turrets, but neither our own experience nor the investigation of others has caused any more fighting ships to be fitted with such structures. For several years, experts fitted on our cruisers and gunboats a sponson wherever they could place one, but the value of such an overhang seems to have been more theoretical than real. The several navies have built all sorts of nondescript craft, such as dynamite cruisers, armored rams, circular iron clads and other freak boats, nearly all of which have reached the junk heap. There has been built, even during the past few years, sailing ships for the practical training of apprentices, although the entire active service of these apprentices will probably be spent in vessels which possess neither sail nor spar, keel nor truck.

*The Navy Must be Primarily the Principal Arm of National Defense.*

The public as well as the Congress, now recognize the fact that the defense of the United States must primarily be entrusted to the navy. Unless a possible foe had some hope of securing command of the sea against the strongest opposing fleet that we could assemble, no nation would undertake the task of fitting out a possible armada to attempt either the blockade or the invasion of our coast.

The war with Spain manifested rather than developed our ability to defend our coast against the strongest of naval powers.

Now that exultation is giving way to thoughtful reflection, it becomes apparent that, strong as we are for defensive purposes, we are weaker than we realize for conducting distant military-naval operations. This weakness is due to the fact that every navy requires an auxiliary merchant marine of several times its tonnage to keep the fighting ships either ready for battle or for the maintenance of an efficient blockade.

*Our Industrial Wealth and Resources Have Brought Upon us Responsibilities.*

From henceforth, we cannot evade the responsibility that attends our position as a great industrial nation seeking a fair portion of the trade of the world. As we have taken it unto ourselves to assert doctrines that affect others, there will come occasions when our military-naval strength may be the only factor that will cause other nations to accept our interpretation of policies that concern them as well as ourselves.

Our influence as a world power resulted from our industrial, agricultural and mineral wealth, and not by reason of military development. Our possibilities were recognized abroad from the time we took the lead in the manufacture of steel and perfected transportation facilities to a degree that made it possible for us to handle and carry a ton of material by rail in a more expeditious, safer and cheaper manner than could be done by any industrial competitor. We had only to break away from our economic isolation to make the world realize that our industrial and political influence was not to be limited to the bounds of our own territory.

*Foreign Estimate of Our Naval Strength.*

It was my privilege, about a year ago, while spending several months in Europe in studying the trend of naval engineering development, to confer, upon the question of sea power, with some of the ablest administrative officials of Great Britain and the Continent. In reviewing the events and results of the Spanish-American War, these experts were in accord in stating that what impressed them most, as regards the military power of America, was the amazing wealth of agricultural, mineral, manufacturing,



transportation and financial resources that were at the command of this country for conducting a defensive war against even a combination of Continental powers. It was evident, also, that these administrative officials were sincere in the belief that the United States, by the acquisition of distant tropical colonial possessions, had put it within the power of future foes to change the field of possible naval conflicts to localities less advantageous to the United States than are the Atlantic Coast and the Caribbean Sea.

*Our Voluntary Assumption of Responsibilities Beyond Our Natural Boundaries is, from a Naval View-Point, a Serious Weakness.*

By force of events, and it is hoped for the benefit of civilization, we have acquired tropical colonial possessions. History shows, however, that, except in isolated cases, the Anglo-Saxon has never succeeded in successfully establishing large colonies near the line of the equator. The possession of such territory, therefore, except for the purpose of using these colonial ports as a base of operations either in the defense of our own shores, or for the protection of our commercial rights, constitutes a weakness that should cause us to weigh well every important element of naval conflict.

From the administration of President Monroe onward, the responsibilities of the United States have extended beyond our own borders and the duties thus assumed have been increased, in later years, by the acquisition of island territory and of the canal-zone at Panama. Without regard to other considerations affecting these factors of our colonial and foreign policies, it may be said, from a naval view-point, that, so long as the present status continues, there will be a progressive increase in our military and naval expenditures and a constant need of preparedness for naval war.

### *The Philippines a Naval Burden.*

Invasion can only be prevented by resistance on the sea. In the event of war, therefore, with a strong naval power, our trans-Pacific possessions in the Philippine archipelago must either be guarded by a fleet strong enough to cope with any force the enemy may send against it, as well as to hold the command of the sea, or the islands must be left to their own resources and open to attack. While our neighbors in Asia are now at peace with us and

may remain so for generations to come, it is still worth while to consider the possible changes that the years might bring.

It may be pertinent to call to mind that when France seized Formosa in 1885, the European press of China and Japan made studied effort to show how closely connected were Japan, Formosa and the Philippines, and that it was but the destiny of events that this chain of islands should some day be under a single controlling power. In fact, this thought was even pleasing to many Americans living in the Far East. It needed no suggestion, however, from the European to cause any Japanese to look towards Formosa and to the isles beyond for natural territorial expansion. Japanese romance, tradition and history furnish all the inspiration necessary to convince her people that in the fullness of time the flag of the rising sun would float over the Kurile chain as well as the Philippine group. The ambition of China, likewise, may concern itself with this remarkable chain of islands, and it should not excite surprise that there is a sincere belief existing in some part of the Orient that our acquisition of these possessions is incompatible with the vested, if not the acknowledged, inheritance of the Asiatic.

Just as soon as China recognizes the fact, as Japan has done, that the business of modern war, simply requires her to subordinate the classic and philosophic teachings of Confucius and Mencius to a thorough knowledge and application of modern sciences, the world may find that there is, perhaps, a stronger power in Asia than even Dai Nippon. The Chinese are patient, faithful, quick to learn, ready to follow a brave leader, and fearless in death. As one contemplates the industrial and military possibilities of these people, it is not a visionary prophecy which foretells that the Tartar, either on his own account or under the tutelage of Japan, may become a military power of such formidable strength as to be capable of asserting her right to enact such reciprocal exclusion laws, against countries which have excluded her citizens, as her people may consider essential to the maintenance of domestic peace and to the development of her manufacturing growth. It may also be possible, that when Japan realizes that what she has secured by conquest from Russia, can only be held from China by the maintenance of a great standing army in Manchuria, she may turn her eyes southward and behold in the Philippines that which we may then be only too glad to

dispose of,—a territorial goal which her people may regard as logically within the sphere of her commercial influence.

### *The Inter-Oceanic Canal.*

Another of the problems which is of most serious concern in our naval policy is that resulting from the building of the Isthmian Canal. While this water-way is, in a purely naval sense, of the highest value to the United States in practically consolidating our Atlantic and Pacific fleets, it also imposes a heavy burden in its maintenance and defense.

The latest estimate as to the cost of an isthmian sea-level canal is about two hundred and thirty million dollars. In connection with the question of the cost of such a water-way, it may be well to remember that Trautwine, about fifty years ago, estimated the cost as about sixteen million dollars, or about 7 per cent. of the latest estimate. As the tendency of ship construction is to build longer, broader and deeper draft vessels, the necessity for providing a canal of sufficient depth for such vessels may ultimately cause the enlargement of the scope of the project, and as a result the possible cost of the completed undertaking is likely to be much in excess of the amount now estimated. The natural features of the country environing the canal are of such a character that in order to prevent the impairment or destruction of this great water-way, most of the length of the canal will have to be defended constantly. It is a conservative estimate that there will be required an additional one hundred million dollars for the building of forts and harbors of refuge, for the government of the canal-zone, in the employment of naval auxiliaries, and for the maintenance of the military force essential to the protection of the canal from those whose malice or interest would prompt them to wreck it. The Suez Canal is partly protected from willful destruction, by the desert in its vicinity, while the Panama water-way passes through the Andes, and thus the character of the country is of such nature that it would be possible for a comparatively small body of daring men, working under the direction of an engineering expert, to undo in a single night the building operation of months. It should be remembered that the Pacific end of the canal will have to be defended as well as the Atlantic entrance, and that a possible enemy might operate

from bases south of Panama. The defense of the water-way is, therefore, a problem of moment.

### *Our Relation to Minor American Republics.*

One element of our foreign policy which seems likely to be a serious naval burden and also a possible factor of moment in naval war, is our relation to the minor states of the American continent. The financial and political history of some of the American republics for the last twenty years has been deplorable, and it is surprising that there has not been intervention ere this in the affairs of such of these countries as are more or less in a chronic state of revolution, and in which financial repudiation is not regarded as synonymous with commercial dishonor. The more we are forced to concern ourselves with their administration, the greater the naval and financial burdens we shall have to bear. The condition of affairs in some of these republics is so reprehensible that it should be a matter of international action to apply drastic measures to secure permanent reform, for so long as any one power attempts to regulate either their political or financial matters, the purposes and motives of the intervening party are certain to be impugned. However unselfish or disinterested may be our motive in trying to aid these small republics, the greater, at times, seems their suspicion and distrust of our action. We shall certainly have need of a strong navy if we are forced to concern ourselves with the finances of these republics, for finance is at the base of the internal mal-administration of some of these republics.

### *The Magnitude of Our Responsibilities Beyond Our Own Borders.*

The civilization of the Philippines, the building of the Isthmian Canal, and the straightening out of the financial affairs of small republics whose fiscal transactions have been questionable and intolerable, will each be found a financial burden that will prove a great tax upon our resources, and a political problem that will require the highest diplomatic talent. The concurrent treatment of these three questions may yet cause us grave concern, and it is, thus, imperative, that we should give immediate consideration to those elements of naval conflict which are particularly applicable to this situation.

The efficiency of a modern navy is only dependent in part upon the number and character of its fighting ships. Eighteen months ago the navy of Russia was regarded as next to England and France in relative strength, as measured from the standpoint of fighting vessels. The weakness of both the military and naval establishments of Russia has been due to the fact that the problems of supply and maintenance to both army and fleet have been regarded as of minor importance when compared with the question of technical organization.

*The Important Elements of Naval Strength Applicable to Our Present Condition.*

The lessons of the Russo-Japanese War are plain and simple and should be taken to heart by our people. It is the concomitant features of both military and naval organizations that have been neglected by the Russians. For the next few years, therefore, it might well be in the special direction of developing the auxiliaries to a fleet and not to augmenting greatly the number of fighting ships to which we should direct our best energies. It would be a conservative policy which would provide for a progressive increase in actual fighting strength equivalent to the net gain of at least one battleship per year. The bulk of the expenditures, outside of providing for depreciation and maintenance, might well, however, be applied as follows:

1. Improvement of the channels leading to all shipbuilding plants, naval stations and maritime cities. These channels should be straightened, broadened and deepened for military as well as for commercial reasons. All impeding bars near the entrance should be removed, and the channels should likewise be so well buoyed and lighted that it would be possible at all hours and at all stages of the tide for the largest of merchant vessels and the most formidable of battleships to enter or leave port without danger of striking bottom or imperiling coast-wise and harbor navigation.

2. The building of a fleet of large fast colliers, so that in time of war the greater part of the coal required for distant naval operations would be available for shipment to the place most needed. But little reliance should be placed upon fixed coaling stations, since in time of war most of these stations might prove as much a menace

as an aid to a naval fleet. By keeping the coal afloat there would always be fuel available for immediate transportation.

3. The rehabilitation of all the navy yards to a condition whereby, in case of necessity, it would be possible to build any type of warship at any one of the first-class stations. While it is by no means particularly advisable that such construction should be undertaken by the government, the leading naval repair station should be kept in readiness for doing any kind of emergency work.

4. The enactment of a statute providing that those graduates of technological institutions, who have successfully undertaken a course of instruction satisfactory to the Navy Department and who have passed a required physical examination, shall be appointed as acting midshipmen. Such graduates after two years' service at sea in naval vessels shall have the opportunity of competing with graduates of the Naval Academy for commission in the naval service.

5. The establishment of a naval reserve, and the appropriation of an amount sufficient to send all members of such organization to sea in naval vessels for at least one month every year, and who while performing this service, to receive the same pay and emolument as officers and men of corresponding rank and grade in the navy.

6. The restoration of our merchant marine. It would be easier to write several thousand words in advocacy of subsidizing our merchant marine than to attempt to show in a brief paragraph the necessity of extending such help. I have no hesitation in asserting, that in view of our existing relative naval strength, it would subserve military, commercial and national interests to stop building battleships for a time, and devote all or a portion of the money thus saved to placing upon the ocean a merchant marine that would help us to secure a greater portion of the trade of the world, and which, in case of war, would prove a military auxiliary only one step less removed in importance than the warship itself.

7. The recognition of the fact that the modern navy is an engineering one, and that the training of both officers and men should be more technical in character. The time spent by apprentices and landsmen on sailing vessels is practically wasted.

8. The purchase, if possible, and as soon as practicable, from Denmark, France and England, of all their West India possessions,

so that none of the fortresses on these islands could be maintained for use against either the Isthmian Canal or used as a base for operating against the South Atlantic and Gulf coasts. The regulation of the fiscal arrangements of some of the American republics would be exceedingly simplified if no European power held any possessions of the Western Continent, for so long as a single island in the Caribbean Sea is under the dominion of a foreign power, so long may that power consider that it possesses at least a moral and political equity in concerning itself as to the administration of neighboring islands that are in a chronic state of financial embarrassment and political revolution.

9. With the possession or the dismantling of every West India fortress which might be a menace if in the hands of an enemy, we now have either in commission or in course of construction, a navy strong enough to meet any power in the world either on the North Atlantic coast or in the Caribbean Sea. For military operations in Asia or even in certain portions of South America, vast expenditures would have to be incurred before we should be willing to stake our prestige and commercial development in accepting battle in waters so far distant from the home land.